Supplement 3. Analysed COI sequences of specimens from genus *Branchinecta* from GenBank and BOLD.

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| Species | Geography | COI |
| *Branchinecta paludosa* | Canada: Manitoba, Churchill | JN233830 |
| *B. paludosa* | Canada: Manitoba, Churchill | JN233828 |
| *B. paludosa* | USA: Wyoming, Medicine Bow Mountains-Townar Pond West | HG797707 |
| *B. paludosa* | Canada: Manitoba | GU680586 |
| *B. paludosa* | Canada: Manitoba, Churchill | JN233829 |
| *B. paludosa* | Canada: Manitoba | GU680587 |
| *B. paludosa* | Canada: Manitoba, Churchill | JN233827 |
| *B. paludosa* | Canada: Manitoba, Churchill | JN233825 |
| *B. paludosa* | Canada: Manitoba, Churchill | JN233826 |
| *B. paludosa* | Canada: Northwest Territories | AF209064 |
| *B. paludosa* | USA: Wyoming, Medicine Bow Mountains-Townar Pond West | HG797706 |
| *B. paludosa* | USA: Wyoming, Medicine Bow Mountains-Townar Pond West | HG797705 |
| *B. paludosa* | Sweden: Jamtland, Helagsfjallet | HG797703 |
| *B. paludosa* | Sweden: Jamtland, Helagsfjallet | HG797704 |
| *B. paludosa* | Sweden: Jamtland, Helagsfjallet | HG797702 |
| *B. paludosa* | Slovakia: Tatra Mountains, Vysne Krukotske Lake | HG797701 |
| *B. paludosa* | Slovakia: Tatra Mountains, Vysne Krukotske Lake | HG797700 |
| *B. paludosa* | Russia: Yamalo-Nenets Autonomus Okrug, Belyi Island | HG797699 |
| *B. paludosa* | Russia: Sakha republ, Shirokostan peninsula | HG797698 |
| *B. paludosa* | Russia: Sakha republic, Kotelny Island | HG797697 |
| *B. paludosa* | Russia: Sakha republic, Kotelny Island | HG797696 |
| *B. paludosa* | Norway: Oppland, Dovre-Kvitdalen | HG797683 |
| *B. paludosa* | Norway: Oppland, Folldal-Einunndalen | HG797684 |
| *B. paludosa* | Norway: Oppland, Dovre-Hjerkinn | HG797682 |
| *B. paludosa* | Norway: Oppland, Dovre-Hjerkinn | HG797681 |
| *B. paludosa* | Norway: Oppland, Dovre-Hjerkinn | HG797680 |
| *B. paludosa* | Norway: Oppland, Dovre-Hjerkinn | HG797679 |
| *B. paludosa* | Norway: Oppland, Dovre-Hjerkinn | HG797678 |
| *B. paludosa* | Norway: Oppland, Dovre-Grimsdalen | HG797677 |
| *B. paludosa* | Canada: Northwest Territories, Cape Bathurst | HG797662 |
| *B. paludosa* | Canada: Northwest Territories, Banks Island | HG797661 |
| *B. paludosa* | Canada: Manitoba, Churchill | HG797660 |
| *B. paludosa* | Canada: Manitoba, Churchill | HG797658 |
| *B. paludosa* | Canada: Manitoba, Churchill | HG797659 |
| *B. tolli* | Russia: Chukotka | PQ046211 |
| *B. tolli* | Russia: Sakha republic, Indigirka delta | HG797695 |
| *Branchinecta lindahli* | USA: California | FJ439748 |
| *B. lindahli* | USA | KX882089 |
| *B. lindahli* | USA | KX882088 |
| *B. lindahli* | USA: California, San Diego County, Camp Pendleton | MN992055 |
| *B. lindahli* | USA: Wyoming | MF037690 |
| *B. lindahli* | USA: Madeline Plain, CA | MF037685 |
| *B. lindahli* | Mexico: Baja California | MF037678 |
| *B. lindahli* | Mexico: Baja Californi | MF037677 |
| *B. lindahli* | USA: Madera, CA | MF037673 |
| *B. lindahli* | USA: Edwards Airforce Base, CA | MF037668 |
| *B. lindahli* | USA: California | FJ439747 |
| *B. lindahli* | USA: Colorado | MF037663 |
| *B. lindahli* | USA: California | FJ439746 |
| *B. lindahli* | USA: Buttonwillow, CA | MF037661 |
| *B. lindahli* | USA: California | FJ439745 |
| *B. lindahli* | USA: Bernard Field Station, CA | MF037658 |
| *B. lindahli* | USA: California | FJ439744 |
| *B. lindahli* | USA | KX882084 |
| *B. lindahli* | USA | KX882083 |
| *B. lindahli* | USA | KX882082 |
| *B. lindahli* | USA | KX882081 |
| *B. lindahli* | USA | KX882080 |
| *B. lindahli* | USA | KX882079 |
| *B. lindahli* | USA | KX882078 |
| *B. lindahli* | USA | KX882077 |
| *Branchinecta sandiegonensis* | USA: California, San Diego County, Vista Del Mar | MN992077 |
| *B. sandiegonensis* | USA: California, San Diego County, Camp Pendleton | MN992076 |
| *B. sandiegonensis* | USA: California, San Diego County, Camp Pendleton | MN992075 |
| *B. sandiegonensis* | USA: California, San Diego County, Proctor Valley ORV B | MN992074 |
| *B. sandiegonensis* | USA: California, San Diego County, McAuliffe | MN992073 |
| *B. sandiegonensis* | USA: California, San Diego County, Purewater - Sanders | MN992072 |
| *B. sandiegonensis* | USA: California, San Diego County, Vista Del Mar | MN992071 |
| *B. sandiegonensis* | USA: California, San Diego County, Camp Pendleton | MN992070 |
| *B. sandiegonensis* | USA: California | FJ439716 |
| *B. sandiegonensis* | USA: California | FJ439715 |
| *B. sandiegonensis* | USA: California | FJ439714 |
| *B. sandiegonensis* | USA: California | FJ439713 |
| *B. sandiegonensis* | USA: California | FJ439712 |
| *B. sandiegonensis* | USA | KX882087 |
| *B. sandiegonensis* | USA | KX882086 |
| *B. sandiegonensis* | USA | KX882085 |
| *Branchinecta lynchi* | USA: California | FJ439753 |
| *B. lynchi* | USA: California | FJ439752 |
| *B. lynchi* | USA: California | FJ439751 |
| *B. lynchi* | USA: California | FJ439750 |
| *B. lynchi* | USA: California | FJ439749 |
| *B. lynchi* | USA: California | HM568505 |
| *B. lynchi* | USA: California | HM568504 |
| *B. lynchi* | USA: California | HM568503 |
| *B. lynchi* | USA: California | HM568502 |
| *B. lynchi* | USA: California | HM568501 |
| *B. lynchi* | USA: California | HM568491 |
| *B. lynchi* | USA: California | HM568490 |
| *B. lynchi* | USA: California | HM568489 |
| *B. lynchi* | USA: California | HM568488 |
| *B. lynchi* | USA: California | HM568487 |
| *B. lynchi* | USA: California | HM568486 |
| *B. lynchi* | USA: California | HM568485 |
| *B. lynchi* | USA: California | HM568483 |
| *B. lynchi* | USA: California | HM568484 |
| *B. lynchi* | USA: California | HM568482 |
| *B. lynchi* | USA: California | HM568481 |
| *B. lynchi* | USA: California | HM568480 |
| *B. lynchi* | USA: California | HM568479 |
| *B. lynchi* | USA: California | HM568478 |
| *B. lynchi* | USA: California | HM568477 |
| *B. lynchi* | USA: California | HM568476 |
| *B. lynchi* | USA: California | HM568474 |
| *B. lynchi* | USA: California | HM568475 |
| *B. lynchi* | USA: California | HM568473 |
| *B. lynchi* | USA: California | HM568472 |
| *B. lynchi* | USA: California | HM568471 |
| *B. lynchi* | USA: California | HM568470 |
| *B. lynchi* | USA: California | HM568469 |
| *B. lynchi* | USA: California | HM568468 |
| *B. lynchi* | USA: California | HM568467 |
| *B. lynchi* | USA | KX882098 |
| *B. lynchi* | USA | KX882097 |
| *B. lynchi* | USA | KX882096 |
| *B. lynchi* | USA | KX882095 |
| *B. lynchi* | USA | KX882094 |
| *B. lynchi* | USA | KX882093 |
| *B. lynchi* | USA | KX882092 |
| *B. lynchi* | USA | KX882091 |
| *B. lynchi* | USA | KX882090 |
| *Branchinecta hiberna* | USA: Valley Pool, ID | MF037649 |
| *B. hiberna* | USA: Harvey Buttes, CA | MF037643 |
| *B. hiberna* | USA: Harvey Buttes, CA | MF037642 |
| *Branchinecta orientalis* | Russia: Lake Baikal, Olkhon Island | LC469606 |
| *Branchinecta ferox* | Spain | ON411464 |
| *B. ferox* | Tunisia | OK047195 |
| *B. ferox* | Serbia | OK047194 |
| *B. ferox* | Serbia | OK047193 |
| *B. ferox* | Serbia | OK047192 |
| *B. ferox* | Serbia | OK047191 |
| *B. ferox* | Morocco | OK047190 |
| *B. ferox* | Israel | OK047189 |
| *B. ferox* | Israel | OK047188 |
| *B. ferox* | Hungary | OK047187 |
| *B. ferox* | Hungary | OK047186 |
| *B. ferox* | Hungary | OK047185 |
| *B. ferox* | Hungary | OK047184 |
| *B. ferox* | Hungary | OK047183 |
| *B. ferox* | Hungary | OK047182 |
| *B. ferox* | Hungary | OK047181 |
| *B. ferox* | Hungary | OK047180 |
| *B. ferox* | Hungary | OK047179 |
| *B. ferox* | Hungary | OK047178 |
| *B. ferox* | Hungary | OK047177 |
| *B. ferox* | Hungary | OK047176 |
| *B. ferox* | Hungary | OK047175 |
| *B. ferox* | Austria | OK047174 |
| *B. ferox* | Austria | OK047173 |
| *B. ferox* | Austria | OK047172 |
| *B. ferox* | Austria | OK047171 |
| *B. ferox* | Austria | OK047170 |
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| *B. ferox* | Austria | OK047166 |
| *B. ferox* | Austria | OK047165 |
| *B. ferox* | Austria | OK047164 |
| *B. ferox* | Austria | OK047163 |
| *B. ferox* | Austria | OK047162 |
| *B. ferox* | Spain: Albacete: Navas del Bonillo | LT821341 |
| *B. ferox* | Spain: Albacete: Navas del Bonillo | LT821340 |
| *B. ferox* | Spain: Albacete: Navas del Bonillo | LT821339 |
| *B. ferox* | Spain: Albacete: Navas del Bonillo | LT821338 |
| *B. ferox* | Spain: Albacete: Navas del Bonillo | LT821337 |
| *B. ferox* | Spain: Segovia: Villagonzalo de Coca: Laguna de la Iglesia | LT821336 |
| *B. ferox* | Spain: Segovia: Villagonzalo de Coca: Laguna de la Iglesia | LT821335 |
| *B. ferox* | Spain: Segovia: Villagonzalo de Coca: Laguna de la Iglesia | LT821334 |
| *Branchinecta lutulenta* | USA: WA, Jericho | MF037697 |
| **OUTGROUPS** | | |
| *Lepidurus arcticus* | Canada | HM425365 |
| *L. arcticus* | Canada | HM425364 |
| *Lepidurus couesii* | Italy, Francavilla Fontana | DQ148290 |
| *L. couesii* | Italy, Sandonaci | DQ148289 |
| *Lepidurus apus apus* | Italy, Veglie | DQ148285 |
| *Lepidurus* sp. |  | DQ889156 |
| *Lepidurus apus lubbocki* | Italy, Castel Porziano | DQ148284 |
| *Phallocryptus tserensodnomi* | Mongolia: Shorvog nuur, Arkhangai aimag | KF040444 |
| *Phallocryptus spinosa* | Spain: Fuente de Piedra | KF040446 |